REMARKS

Reconsideration of this application, as presently amended, is respectfully requested. Claims 1 - 7 are now pending in the present application, new claims 5 – 7 having been added by this Amendment. Claims 1 – 4 stand rejected. No new matter has been added. The rejections set forth in the Office Action are respectfully traversed below.

Objection to the Title

On page 2, item 3 of the Office Action, the title of the invention was objected to for allegedly not being descriptive. The title of the invention has been changed to "A PROGRAMMABLE CONTROLLER HAVING PLURAL SPEED PATTERN GENERATORS."

Approval and entry of the new title is respectfully requested. However, if the Examiner finds the new title to be objectionable, the Examiner is invited to provide a new title that he finds appropriately descriptive.

Changes to the Specification

Although the specification was not objected to in the Office Action, the specification has been reviewed and amended to correct minor informalities.

Approval and entry of the changes to the specification are respectfully requested.

U.S. Patent Application No.: 09/926,446
Response Under 37 C.F.R. §1.111 dated August 3, 2004
Response to the Office Action dated May 5, 2004

Claim Objections

On page 2, item 4 of the Office Action, claims 1 and 3 were objected to for minor informalities. Claims 1 and 3 have been amended to overcome the objections thereto.

Withdrawal of the objections to the claims is earnestly solicited.

Claims Rejections – 35 U.S.C. §112, Second Paragraph

On page 3, item 5 of the Office Action, claims 1 – 4 were rejected under 35 U.S.C. §112, second paragraph for indefiniteness. More particularly, the Examiner asserts that there is insufficient antecedent basis for the language "said arbitrary speed pattern generator units solely" and "said plurality of arbitrary speed pattern generator units" in claim 1.

Claim 1 has been amended to overcome the §112, second paragraph rejection. More particularly the term "arbitrary" has been removed from claim 1 to overcome the §112, second paragraph, rejection based on lack of antecedent basis. Moreover, new dependent claim 6 has been added, which depends from claim 1 and recites that the plurality of speed pattern generator units respectively generate arbitrary speed patterns. Support for new claim 6 is found in the application specification, e.g., page 6, lines 19 – 22.

In view of the above amendments, reconsideration and withdrawal of the §112 , second paragraph, rejection are respectfully requested.

Claim Rejections –35 U.S.C. §102

Claims 1 – 4 are rejected under 35 U.S.C. §102(b) based upon a public use or sale of the invention. Claims 1 – 4 are rejected under 35 U.S.C. §102(b) as being anticipated by **Kogawa** (USP 4,348,731).

Rejection of Claims 1-4 under 35 U.S.C. §102(b) based on public use or sale

With respect to the rejection of claims 1 – 4 under 35 U.S.C. §102(b) based upon *a public use or sale* of the invention, we note that the Examiner has not provided evidence of any public use or sale to support the rejection. Furthermore, Examiner Patel was contacted on May 24, 2004 to clarify why he issued a rejection based on a public use or sale of the invention. Examiner Patel indicated that the rejection under §102(b) based upon a public use or sale was *erroneously* included in the Office Action, and that he was *not* aware of a public use or sale that would anticipate the invention under 35 U.S.C. §102(b).

Reconsideration and withdrawal of the rejection of claims 1 – 4 under 35 U.S.C. §102(b) based upon a public use or sale of the invention are respectfully requested.

Rejection of Claims 1-4 under 35 U.S.C. §102(b) as being anticipated by Kogawa

The present invention is directed to a programmable controller comprising a speed pattern generator including a plurality of speed pattern generator units that respectively receive commands and generate a desired speed pattern. The speed pattern generator units may store arbitrary speed patterns and a desired speed pattern may be formed as a composite speed pattern based on the algebraic sum of the arbitrary speed patterns.

The Kogawa reference

Kogawa discloses a control device for automatically controlling movement of an object, such as a spray gun, welding torch, or other tool, held by a "working apparatus." More specifically, **Kogawa** discloses a device that automatically controls the speed of an object along a route or path on which the object is to be moved as a function of a bend angle at "bend points" at which the direction of movement of the object is changed (see, e.g., column 2, lines 17-22).

The control device taught by **Kogawa** includes one speed pattern generator 50 that receives either an acceleration command signal input 51 or a deceleration command signal input 52 and outputs a trapezoidal-shaped acceleration/deceleration pattern E for controlling the speed of the moving object (see Figs. 4 and 5, column 6, lines 35-64). The acceleration and deceleration commands input to the speed pattern generator 50 are calculated based on the bend angles. The speed pattern generator 50 of **Kogawa** is an up-down counter, as is well-known in the art (see column 6, lines 58-60).

To automatically control the speed of the moving object based on the bend angles, the control device disclosed by **Kogawa** is operated in a teaching mode wherein bend points at which the direction of the object changes are stored in a memory unit 36 (see column 5, line 67-column 6, line 18). The values of bend angles are then arithmetically determined based on the bend points. After the bend angles are calculated, the speed of the moving object is automatically controlled via the acceleration and deceleration command signals input to the speed pattern generator 50 such that speed is changed as a function of the bend angle. The speed

of the moving object may be controlled in proportion to the bend angle, and the speed may also be controlled based on the bend angle and the distance to the next bend point (see, e.g., column 2, line 60 –column 3, line 29).

It is noted that **Kogawa** suffers from deficiencies similar to those of the programmable controller discussed in the Background Art section of the present application in that a *single* speed pattern generator 50 automatically generates a speed pattern, and the generated speed pattern is *directly* output to a servo controller 43.

The rejection of claims 1-4 is under 35 U.S.C. §102, which requires that each and every element as set forth in the claims must be described, either expressly or inherently, in the prior art reference. The **Kogawa** reference does not disclose or suggest features found in independent claim 1 and claims 2-4, which depend from claim 1.

In contrast to the invention presently recited in claim 1, **Kogawa** teaches a *single* speed pattern generator unit 50 that receives acceleration and deceleration commands and generates a speed command. Unlike **Kogawa**, the claimed invention (claim 1) comprises a speed pattern generator including a *plurality* of speed pattern generator units that respectively receive input of an amount of movement, speed, acceleration time and deceleration time and calculate a desired speed pattern.

Moreover, **Kogawa** does not disclose or suggest the features recited in dependent claims 2-4. Specifically, **Kogawa** does not disclose or suggest a programmable controller comprising a user operation portion that receives the calculated speed pattern and sends the output to a servomotor (claim 2). Further, **Kogawa** does not disclose or suggest a user operation portion as

recited in dependent claim 3, which depends from claim 2, wherein the user operation portion can be started and stopped by a user. The controller disclosed by **Kogawa** outputs a speed pattern from the speed pattern generator *directly* to the servo controller 43, and does *not* include a user operation portion to receive the speed pattern.

Further, **Kogawa** does not disclose or suggest the features recited in claim 4, wherein the speed pattern generator units store trapezoidal waveforms having arbitrary shapes and a desired speed pattern is generated as a composite pattern that is geometrically superposed based on the algebraic sum of the trapezoidal waveforms. In contrast, the single speed pattern generator disclosed by **Kogawa** generates a speed pattern in a conventional manner with an up/down counter (see, e.g., Figure 5 and lines 58-64 of **Kogawa**).

Therefore, contrary to the Examiner's assertion that all elements disclosed in claims 1-4 are disclosed by the **Kogawa** reference, each of claims 1-4 recite elements that are not disclosed by **Kogawa**. The rejection under 35 U.S.C. §102 is therefore unsupported by the art and should be withdrawn.

Reconsideration and withdrawal of the rejection under §102 are respectfully requested.

New Claims

New claims 5-7 have been added by this Amendment. New claims 5-7 depend either directly or indirectly from claim 1 and are allowable for the reasons set forth above with respect to claim 1.

U.S. Patent Application No.: 09/926,446
Response Under 37 C.F.R. §1.111 dated August 3, 2004
Response to the Office Action dated May 5, 2004

CONCLUSION

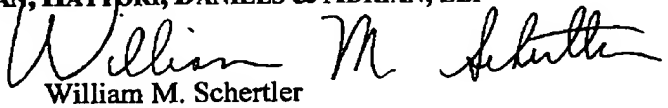
For the reasons set forth in detail above, it is respectfully submitted that all pending claims are in condition for allowance. An indication of allowability of all pending claims is respectfully requested.

If the Examiner believes that there are issues remaining to be resolved in this application, the Examiner is invited to contact the undersigned attorney at the telephone number indicated below to arrange for an interview to expedite and complete prosecution of this case.

In the event that any fees are due in connection with the filing of this paper, please charge any fees to Deposit Account No. 50-2866.

Respectfully submitted,

WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP



William M. Schertler
Attorney for Applicant
Reg. No. 35,348

WMS:kal
1250 Connecticut Avenue, N.W.
Suite 700
Washington, D.C. 20036
(202) 822-1100
Q:\2001\011435\Filings\1.111 Amendment - August 2004.doc